

Department of Entomology
123 West Waters Hall
K-State Research and Extension
Manhattan, Kansas 66506
785-532-5891
<http://blogs.k-state.edu/kansasbugs/>
<http://www.entomology.ksu.edu/extension>



August 20, 2020 No. 19

Cicada Killer...Not The Asian Giant Hornet

ID to last week's bug

Identify This Insect

Gorgone Checkerspot

Insecticide Active Ingredients Registered For Use Against Bagworms

SOYBEANS

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Cicada Killer...Not The Asian Giant Hornet

We are receiving inquiries regarding large wasps flying around. These are the Eastern cicada killer (*Sphecius speciosus*); not the Asian Giant Hornet (*Vespa mandarinia*). Cicada killer females search for, kill, and provision each cell within a nest located in the ground with a dog day cicada (*Tibicen pruinosus*) adult. The dead cicada is a food source for young cicada killer larvae. Cicada killers are an urban nuisance pest, especially when nesting in large numbers, in bare areas, in turfgrass, or around a structure. People are generally concerned because cicada killers resemble giant yellowjackets or they think cicada killers are the Asian giant hornet.

Cicada killers are approximately 2.0 inches long and black with yellow-banded markings on the abdomen. The head and transparent wings are red-brown (Figure 1). Cicada killers are not dangerous, but they are intimidating; especially the males. Cicada killers are ground-nesting solitary wasps, with the female digging a 6 to 10-inch burrow (1/2 inch in diameter) in the ground; usually in sandy or loose soil. A pile of sand or soil, depending on soil type, will surround the entrance.

Figure 1. Cicada Killer Adult (Raymond Cloyd, KSU)



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Females search for and sting large insects such as a cicada or katydid, and then bring the immobilized or paralyzed prey back to the burrow (Figures 2 and 3).

Figure 2. Cicada Killer Female Transporting A Paralyzed Cicada To Her Nest (Raymond Cloyd, KSU)

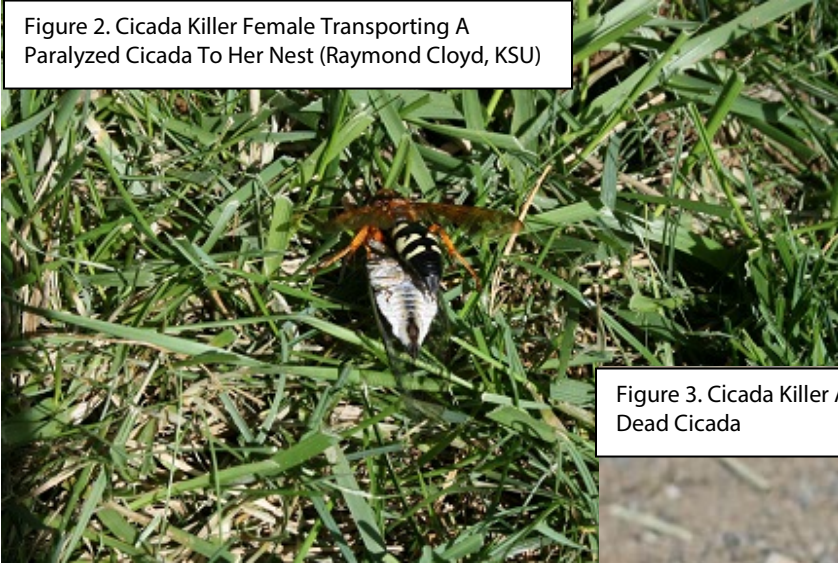


Figure 3. Cicada Killer Adult Female With Dead Cicada



The female places prey into a chamber in the nest and then lays an egg on the body. Afterward, the female covers the burrow, digs another burrow, and repeats the process. A legless grub-like larva will emerge (eclose) from the egg and proceed to consume the prey. Full-grown larvae overwinter in the burrow, pupate in spring, and emerge as adults from July through August.

Male cicada killers establish aerial territories and patrol for intruders. A male cicada killer wards-off other males that enter his territory and attempt to mate with females. An individual that walks into the territory is typically confronted by a very large wasp hovering in front of the face and 'zips' to the side and back. However, after determining that the intruder is not a rival or a threat, the male cicada killer ignores the individual. Nevertheless, an individual walking across a lawn, fairway, or other area where cicada killers are nesting, will experience the same treatment through each male's territory. After females have left the nest then males will eventually leave.

Cicada killers, in general, will not sting an individual. Wasp and bee stingers are modified egg-laying devices (ovipositors), so males cannot sting. Females, however, may sting if crushed or if stepped on with bare feet, or grabbed with bare hands.

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Cicada killers are common in areas with bare soil, so mulching, planting ground covers, or sodding may reduce issues with cicada killers. Cicada killers can be a problem in well-maintained areas such as irrigated and regularly fertilized turfgrass. In addition, cicada killers can be a problem when nesting in areas accessible to or frequented by the public. Applying carbaryl or pyrethroid insecticides containing the active ingredients; permethrin, bifenthrin, cyfluthrin, and/or lambda-cyhalothrin to the burrowed area will kill females in golf course sand traps. In home yards, sandboxes should be covered with a tarp when not in use to deter cicada killers. Sand below swings, jungle gyms, or other playground equipment should be replaced with bark mulch or shredded tires.

Managing cicada killers in baseball infields and volleyball courts is more challenging because people with minimal clothing and exposed skin are diving and sliding onto the ground; thus making it difficult to recommend using an insecticide. However, in the case of a volleyball court, a geotextile fabric placed beneath the sand may create a barrier that prevents cicada killers from creating burrows.

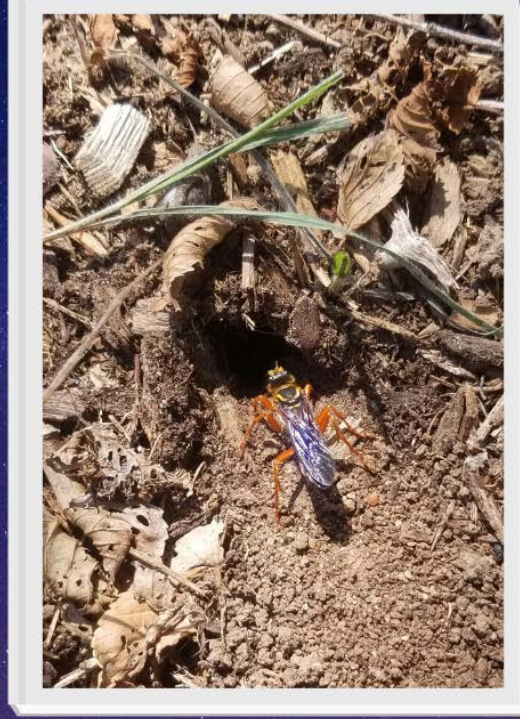
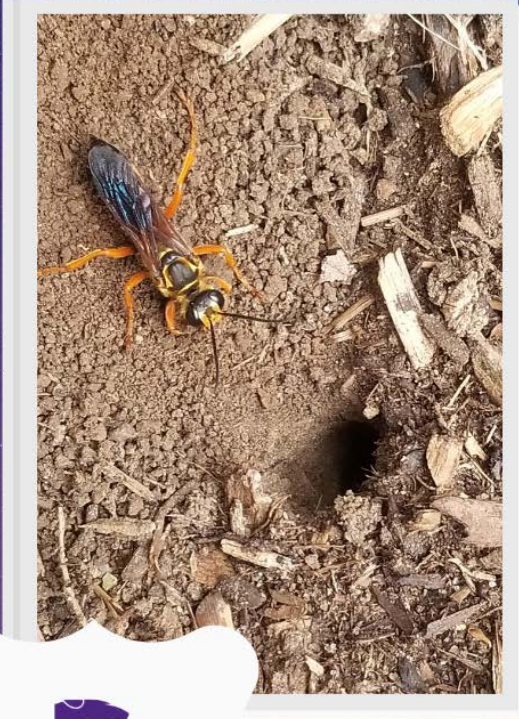
Raymond Cloyd

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ID to last week's bug

Great garden digger wasp – The great garden digger wasp is a nonaggressive, large solitary wasp that digs nests in sandy soil. They are beneficial because they prey upon grasshoppers, aerate the soil, improve the soil's water holding capacity, and help to pollinate flowers. These wasps have been quite active in one of my flower beds.

Can you identify this insect and tell why it is beneficial?

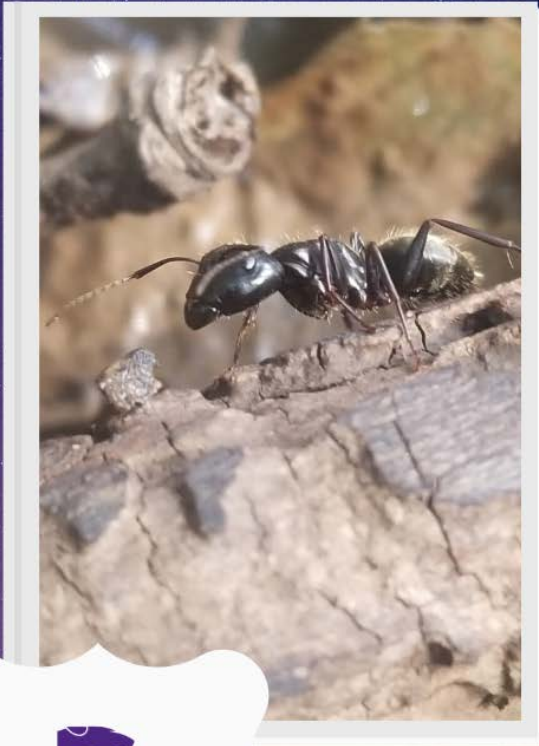


Frannie Miller

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Identify This Insect

Can you identify this insect?



Gorgone Checkerspot

Have you noticed the leaves of your sunflower (*Helianthus annuus*) plants being fed upon by caterpillars (Figure 1)? If so, the caterpillar in question is the gorgone checkerspot (*Chlosyne gorgone*). The caterpillar ranges in color from black to orange, with a black head and spines or barbs covering the body (Figure 2). The caterpillars feed on sunflowers and other related plants. The young caterpillars feed in groups (Figure 3) whereas the mature caterpillars, which are approximately 1.0 inch in length, feed individually (Figure 4). Third instar larvae will eventually search for a place to overwinter.



Figure 1. Gorgone Checkerspot Caterpillars Feeding On Sunflower Leaf (Raymond Cloyd, KSU)



Figure 2. Gorgone Checkerspot Caterpillar (Raymond Cloyd, KSU)



Figure 3. Young Gorgone Checkerspot Caterpillars Feeding In A Group (Raymond Cloyd, KSU)



Figure 4. Mature Gorgone Caterpillar (Raymond Cloyd, KSU)

If you see the caterpillars feeding on sunflower leaves and your plants can tolerate some feeding damage, then just leave them alone as the caterpillars will eventually develop, by means of complete metamorphosis, into beautiful butterflies.

Raymond Cloyd

Insecticide Active Ingredients Registered For Use Against Bagworms

When Bagworm Cases Are \leq 3/4 Inches Long

- * *Bacillus thuringiensis* subsp. *kurstaki*
- * Spinosad

When Bagworm Cases Are $>$ 3/4 Inches Long

- * Bifenthrin
- * Carbaryl
- * Clarified hydrophobic extract of neem oil
- * β -cyfluthrin
- * Gamma-cyhalothrin
- * Lambda-cyhalothrin
- * Malathion
- * Permethrin
- * Tau-fluvalinate
- * Zeta-cypermethrin

Note: these active ingredients can be used when bagworm cases are \leq 3/4; however, they are more harmful to beneficial insects and pollinators.

Raymond Cloyd

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SOYBEANS

There seems to be much focus on soybeans and sorghum right now, as there probably should be. Similar to last week, soybeans still seem to be relatively free of damage by pests. See picture of green cloverworm infected with fungus (fig. 1). However, there has been considerable fungicide spraying around the state and many of those applications included an insecticide "just in case"- with the rationale that it may save an insecticide application cost if an insecticide may later be justified. However, pesticide applications are very rarely, if ever, recommended "just in case" for several reasons: 1st-most insecticides commonly used for soybean pests have approximately 10-14 days residual activity, and in fact, as the plants add foliage this newer foliage will have NO residual. Thus if pests do buildup to treatable levels another insecticide application will still be required; 2nd-the more insecticide applications utilized the more pressure placed upon the pest(s) populations, thus the more and faster opportunity for pest resistance; 3rd-each insecticide application reduces non target organisms, both beneficials that may help control pests through predation and parasitism, and potential pollinators. So, from practical, environmental, entomological, and financial aspects it is just a terrible practice to add an insecticide to any kind of application unless and until it is justified by the presence of a treatable level of a specific pest(s).

Figure 1 Green cloverworm (infected with fungus-- picture by Tom Maxwell)



Jeff Whitworth

SORGHUM

Still getting many calls about corn leaf aphids and many folks seem to still be getting them confused with sugarcane aphids (see fig. 2-cornleaf aphids and fig. 3-sugarcane aphids; photo provided by Jay Wisby) just because of the amount of honeydew produced by both species. Sugarcane aphids have now been verified as far north in Kansas, at least as far as I have heard, as Saline and Dickinson Counties. None of the colonies, yet, however have reached field-wide treatable levels and beneficials seem to be plentiful around every colony so far.



Figure 2 cornleaf apids on leaf

Figure 2 sugarcane aphids on leaf

Jeff Whitworth

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Sincerely,

Jeff Whitworth
Extension Specialist
Field Crops
phone: 785/532-5656
e-mail: jwhitwor@ksu.edu

Raymond A. Cloyd
Professor and Extension Specialist
Horticultural Entomology/Integrated Pest Management
Phone: 785-532-4750
Fax: 785-532-6232
e-mail: rcloyd@ksu.edu

Frannie Miller
Pesticide Safety & IPM Coordinator
Kansas State University
600 W. Woodside
McPherson, KS 67460
Phone: (620) 241-1523
Fax: (620) 241-3407
<http://www.ksre.ksu.edu/pesticides-ipm>

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